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# THE AGRICULTURAL • SITUATION •

APRIL 1939

*A Brief Summary of Economic Conditions*

Issued Monthly by the Bureau of Agricultural Economics, United States Department of Agriculture

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FARMERS report they are planning smaller acreages of spring wheat, corn, oats, rice, sweetpotatoes, dry beans, and cowpeas this season compared with last; larger acreages of barley, flaxseed, grain sorghums, potatoes, tobacco, soybeans, peanuts, and tame hay. These changes reflect various factors—participation in soil conservation programs, the lower prices for wheat and some other crops, the reduction in the area seeded to winter wheat last fall, and adjustments to changing feed requirements as new supplies have accumulated after the period of droughts and shortages. \* \* \* Prices of farm products declined during the first quarter of this year, but total of income from marketings and Government payments was 1.105 billion dollars for January and February, compared with 1.107 billion in same months last year. National income decline in first quarter was accompanied by reduction in living costs. Buying power was maintained. Prospects continue for some improvement in consumer purchasing power by summer.

# Commodity Reviews

## DEMAND: Outlook

**A**LTHOUGH increased uncertainties in the foreign situation serve to cloud the outlook, prospects still are for some improvement in consumer purchasing power by summer. This expectation is based on indications of a somewhat more than seasonal pickup in building construction, and larger output of steel and some other industrial products which are in a relatively favorable technical position. Government spending has been increasing, and will be at its highest recent level during the second quarter of the year. No marked expansion in business is expected, however, and further unfavorable developments abroad might prevent any increase.

The critical time for industrial activity and consumers' incomes will come when the impetus furnished by Government spending and building operations is reduced. If the general improvement in the business situation which has occurred since last summer is to continue beyond this summer, an increase in investment expenditures by business firms must take place. Although the conditions affecting business sentiment are conflicting, past experience indicates that a period of rising industrial activity and increasing business profits, such as we have experienced since last spring, is likely to be followed by a resumption of private investment expenditures.

For the year as a whole, however, it now seems unlikely that these prospective developments will result in very marked fluctuations in the domestic demand for farm products, and the outlook still is for a year of relative stability.

The falling off in employment and pay rolls which accompanied the slight recession in industrial activity during the first quarter of 1939 was hardly noticeable. Nevertheless, there appears to have been some de-

cline in the consumer demand for farm products, as indicated by the movement of prices of meats and some other products in relation to changes in supplies, and by the fact that total consumer expenditures for butter declined slightly after December.

The slight weakening in consumer demand, however, was only one factor responsible for the moderate decline in prices of farm products. Storage demand for some commodities seems to have been affected adversely by prospective increases in production, and foreign demand developments have not been favorable. Marketings of some products also have increased in volume. No one of these factors was of more than minor importance in affecting the general level of farm prices, but together they contributed to the general weakening in farm prices and income.

## INCOME: Decline

The total of farmers' cash income from marketings of products was less in February than in January, and less than in February last year. Total was 430 million dollars this February, 578 million in January, and 456 million in February a year ago. But within the total were several groups showing larger income this February than last.

Cash income from grains was 55 million dollars this February compared with 93 million in January, and with 43 million in February last year. Income from vegetables—37 million dollars—was the same in February as in January, but above the 34 million in February last year.

Meat animals yielded a February cash income of 143 million dollars, compared with a January total of 171 million, and with a February 1938 total of 139 million. The cash income from poultry and eggs was 32 million in February, 39 million in January, and 30 million in February last year.

Besides income from marketings, farmers in the aggregate received 56 million dollars of Government payments this February, compared with 41 million in January, and 31 million in February last year.

	Income from marketings	From Government payments	Total
February:			
1939.....	\$430,000,000	\$56,000,000	\$486,000,000
1938.....	456,000,000	31,000,000	487,000,000
1937.....	505,000,000	52,000,000	557,000,000
January:			
1939.....	1,008,000,000	97,000,000	1,105,000,000
1938.....	1,059,000,000	48,000,000	1,107,000,000
1937.....	1,143,000,000	95,000,000	1,238,000,000

### PRICES: Lower

The index of prices of farm products declined during the first quarter of 1939 to the lowest point since July 1934. The March 15 index was 91, compared with 92 in February, and with 96 in March last year.

Sharply lower prices of dairy products accounted chiefly for the decline in the index during the last month of record. The index of chickens and eggs combined also was down slightly. Groups on the up side included cotton and cottonseed, and fruit. The indexes

of grain and meat animals prices were unchanged.

The ratio of prices received to prices paid in March this year was 76 percent of pre-war, compared with 77 in February, and with 77 in March 1938.

### Index Numbers of Prices Received and Paid by Farmers

[1910-14=100]

Year and month	Prices received	Prices paid	Buying power of farm products <sup>1</sup>
1938			
March.....	96	125	77
April.....	94	125	75
May.....	92	125	74
June.....	92	124	74
July.....	95	123	77
August.....	92	122	75
September.....	95	121	79
October.....	95	121	79
November.....	94	121	78
December.....	96	120	80
1939			
January.....	94	120	78
February.....	92	120	77
March.....	91	120	76

<sup>1</sup> Ratio of prices received to prices paid.

### WHEAT: Reduced Acreage

Possibility that the 1939 wheat crop will about equal the average annual domestic disappearance in the last 10

### Prices of Farm Products

Estimates of average prices received by producers at local farm markets based on reports to the Bureau of Agricultural Economics. Average of reports covering the United States weighted according to relative importance of district and States.

Product	5-year average, August 1909-July 1914	March average, 1910-14	March 1938	February 1939	March 1939	Parity price March 1939
Cotton, lb.....	12.4	12.4	8.4	8.2	8.31	15.6
Corn, bu.....	64.2	61.3	51.3	43.9	44.4	80.9
Wheat, bu.....	88.4	83.9	80.3	56.9	56.7	111.4
Hay, ton.....	11.87	12.06	<sup>1</sup> 8.50	6.78	6.67	14.96
Potatoes, bu.....	69.7	67.5	<sup>1</sup> 56.2	64.6	64.6	85.4
Oats, bu.....	39.9	40.3	29.4	26.2	26.9	50.3
Soybeans, bu.....	( <sup>2</sup> )	( <sup>1</sup> )	89.0	68.9	73.2	-----
Peanuts, lb.....	4.8	4.8	3.5	3.4	3.4	6.0
Beef cattle, cwt.....	5.21	5.29	6.11	6.86	7.00	6.66
Hogs, cwt.....	7.22	7.41	8.35	7.21	7.10	9.10
Chickens, lb.....	11.4	11.4	15.9	14.2	14.3	14.4
Eggs, doz.....	21.5	19.6	16.2	16.7	16.0	<sup>3</sup> 20.2
Butterfat, lb.....	26.3	27.1	29.8	24.9	22.7	<sup>3</sup> 34.4
Wool, lb.....	18.3	18.7	<sup>1</sup> 19.2	20.2	20.0	23.1
Veal calves, cwt.....	6.75	6.92	8.17	8.73	8.69	8.50
Lambs, cwt.....	5.87	6.22	7.35	7.37	7.43	7.40
Horses, each.....	136.60	138.40	83.60	83.10	83.00	172.10

<sup>1</sup> Revised.

<sup>2</sup> Prices not available.

<sup>3</sup> Adjusted for seasonality.



years, is suggested by latest reports from farmers. This would mean a reduction in the 1940 carry-over by the amount of the exports of wheat after July 1 next.

Spring wheat growers have reported plans to seed 19.5 million acres this season. Approximately 23.5 million acres were seeded in 1938, and the 1929-38 average was 22.4 million. Average yields on the planned acreage would produce a spring wheat crop of about 200 million bushels this year. The spring wheat crop last year was 244 million bushels.

A spring wheat crop of 200 million bushels plus the winter wheat crop of about 485 million bushels (indicated as of December 1 last) would total about 685 million bushels. This compares with a total of 931 million bushels last season, and with a 1929-38 average of 755 million bushels. The carry-over on July 1 next has been estimated at about 275 million bushels.

Changes in domestic wheat prices this spring will depend largely upon how Argentina markets its large surplus, upon 1939 crop prospects, and upon political developments in Europe. Through late March, Argentina had shown no signs of willingness to dump wheat in world markets, even though the crop is the second largest in history.

The wheat crop in Europe may be smaller this year than the large production last year, but there will be a large carry-over of wheat in the world on July 1 next. Any increase in purchases by European countries to build up reserve stocks, or a general increase in commodity price levels, would tend to offset any decline in prices due to larger supplies in the 1939-40 season.

Prices of wheat in the United States, through the operation of export and loan programs, have been considerably higher than world prices—a relationship that would be maintained by the continuation of these programs buttressed by the prospects for smaller domestic production.

## COTTON: Plantings

Cotton has been planted in the southern part of the Belt, seedings will move north fast as the season gets under way. (First official report on 1939 acreage will be issued July 8.) Meanwhile, public and private agencies struggle with the problem of burdensome supplies and restricted foreign markets.

Domestic mill activity continues at levels much higher than at this time last year, but exports are small. Exports of 2.8 million bales from August 1 last through March 31 compare with 4.7 million in the like period last season. Of the total supply of cotton in the United States, more than 11.3 million bales are pledged as collateral on Government loans—a price-supporting factor.

Cotton prices fluctuated during March, affected by the European political developments, and for the week ended April 1 averaged 8.49 cents for Middling  $\frac{7}{8}$  inch in the 10 spot markets. This compares with 8.65 cents for the same week a year ago.

## FEED GRAINS: Supply

Total production of feed grains may be somewhat smaller this year than last. Farmers have indicated reductions in prospective plantings of corn and oats and increased acreages of barley and grain sorghums.

	Planted acreages		
	Average, 1929-38	1938	Indicated 1939
	Thous- ands	Thous- ands	Thous- ands
Corn, all.....	101,714	93,257	92,062
Oats.....	39,472	36,615	35,393
Barley.....	12,654	11,334	13,219
Grain sorghums, all....	8,389	8,582	9,779
Total.....	162,229	149,788	150,453

Assuming 1923-32 average yields (which were below 1938 yields), the feed supply—production plus carry-

over—will be ample for the number of animals to be fed next fall, even after allowance is made for a substantial increase in hog and poultry numbers and some increase in cattle and sheep numbers.

Farmers also indicated prospective plantings of 57 million acres of tame hay in 1939 compared with 56 million in 1938. There is, however, little market for surplus hay at present. Part of the proposed acreage may be diverted to pasture or other uses.

### **CATTLE: Higher Priced**

Cattle are among the few farm commodities selling higher than at this time a year ago. An important reason is the reduced total slaughter. Cattle slaughter probably will continue smaller as the reduction in slaughter of cows and heifers this spring and summer is expected to be greater than the increase in marketings of grain-fed cattle.

Consumer demand for meats also is likely to be stronger than in 1938. Although business activity declined, and consumer incomes and demand apparently weakened during January and February, some improvement in business and the demand for meats is expected by early summer. An unfavorable factor will be the big increase in marketings of hogs.

Cattle numbers increased about 1 percent during 1938, and in early January this year totaled 66,821,000 head. This was the largest total since 1936. Numbers increased in all areas except in Texas and a few Western States, in 1938. Most of the increase was in dairy cattle, but there was also a fairly sharp increase in the number of calves in beef herds.

Present indications are that more than the usual number of cows, heifers, and heifer calves will be withheld from slaughter this year. This means a further increase in cattle numbers.

### **HOGS: Marketings Up**

Hog marketings are increasing and prices have declined. Marketings

from now through next September will be the largest in several years, reflecting the big increase in the 1938 fall pig crop. A large increase in the 1939 spring pig crop over that of last year also is in prospect. Hogs in late March were selling nearly \$2 per 100 pounds below prices at the same time last year.

The improvement in consumer demand now in prospect is not likely to offset fully the effect of the large increase in supplies of hogs. A favorable factor in the supply situation is that March 1 storage stocks of pork were 7 percent smaller than on March 1 last year, and 16 percent less than the 1933-37 March 1 average. Storage stocks of lard were about equal to the 5-year March 1 average.

United States exports of lard in January, totaling 28.5 million pounds, were the largest for any month since September 1934. This reflects the increase in lard production last year, and the removal of the 10 percent ad valorem duty on lard in Great Britain under the trade agreement that went into effect on January 1. Exports of pork in January, totaling 8.4 million pounds, were 2 million pounds more than in January last year.

### **LAMBS: Reduced Supply**

Slaughter supplies of sheep and lambs will be much smaller this spring than last. The early crop is slightly smaller than the large early crop of 1938, and lambs in California and Texas are in poor condition. A large proportion in these two States will not reach slaughter weights and condition before July. Marketings of grass fat yearlings from Texas also will be much smaller this spring than last.

Conditions have been more favorable in other early lamb producing States, notably Idaho, Oregon, and Washington, where the weather has been good for shed lambing and feed has been abundant and cheap. Marketings from the Southeastern States will be about the same this spring as last. In general the country over, a much larger than usual proportion of

early lambs will be marketed after July.

Prices of fed lambs strengthened slightly in early March, and in mid-March the weekly average of good and choice slaughter lambs at Chicago was about \$8.95. Prices of lambs have fluctuated within a relatively narrow range since the beginning of the marketing season last December, at levels 50 cents to \$1.50 per 100 pounds higher than a year earlier.

## WOOL: Reduced Stocks

Domestic stocks of wool were smaller this April 1 than last, and a fairly strong mill demand is in prospect. Meanwhile, it seems probable that domestic production this year will not be greatly different from that in 1938. (Production totaled 436.5 million pounds of wool in 1938, compared with 432.8 million in 1937.)

The margin of domestic prices of wool over foreign prices has increased in recent months, and this has been reflected in larger imports of wool into this country. January imports of apparel wool for consumption, totaling about 6 million pounds, were the largest since August 1937. (Imports for consumption represent apparel wool entering this country for immediate consumption plus wool withdrawn from bonded warehouses on which the duty has been paid.)

Developments in foreign countries will importantly affect the domestic wool situation in coming months. The recent stability and slight strength in the dollar value of the British pound is a favorable factor. More favorable would be an expansion in foreign mill demand for wool.

World wool production (outside Russia and China) was about 3.4 billion pounds in 1938, not greatly different from the production in 1936 and 1937. Stocks of wool in the principal exporting countries are smaller than a year earlier but stocks in the chief importing countries, except Japan, are large.

## TRUCK CROPS: Improvement

Producers of truck crops should do better this spring than last. Prospective supplies of vegetables are somewhat smaller, consumer buying power is higher. The last of the heavy supplies of the 1938 season were rapidly disappearing in early spring, and new crop prices were somewhat higher than in mid-March last year.

Reports from growers (in March) indicated a total commercial acreage of truck crops planted or intended to be planted for fresh market about the same as in 1938. Increases in snap beans, beets, lettuce, and probably in asparagus (depending upon the quantity manufactured in California) balanced reductions in almost all other commercial vegetables. But crops were not growing so well, and reduced yields this season compared with last were indicated.

The situation: Asparagus acreage increased; cabbage plantings to be reduced; cauliflower production reduced; celery crop smaller, prices higher; lettuce acreage and production up sharply; onions — Bermuda acreage down, intermediate and late intended acreage up; tomato shipments heavier, prices holding; watermelon plantings to be reduced.

Shipments of the 3 major canned vegetables—corn, peas, and tomatoes—for their respective marketing seasons to March 1 were 4.1 million cases below the same period a year earlier. Only shipments of peas were larger (by about 700,000 cases) this season; corn shipments were 3.5 million cases below the previous season; tomatoes were down 1.3 million cases. The 1939 outlook for canned vegetables is not so good as was indicated last fall.

Stocks of frozen vegetables totaled 55.5 million pounds on March 1, compared with 26 million on March 1 last year, and 10.3 million on March 1, 1937. Frozen peas have moved out of storage in much heavier volume this season than last; total net movement from September through February was 8.9 million pounds.



## POTATOES: Plantings

Potato acreage may be about the same this year as last, and about 9 percent less than the 1929-38 average planted acreage. Average yields on this year's indicated plantings would produce a crop of about 336 million bushels. The 1938 crop was about 369 million bushels, and about the same as the 10-year average production.

Slight increases are indicated in prospective acreage in the commercial areas of intermediate States and in the 5 central surplus late States. Slight decreases are indicated for all other areas. Important increases by States: Maine, 2 percent; Michigan, 6 percent; Minnesota, 4 percent; North Dakota, 16 percent; South Dakota, 6 percent; Idaho, 2 percent; Oregon, 5 percent; New Jersey, 2 percent; Kentucky, 4 percent.

The prospective acreage and average yields in the southern commercial early States would produce a crop of about 16.7 million bushels, or about 13 percent less than in 1938. The early crop in California, marketed at about the same time as southern commercial potatoes, would be slightly larger this year than last.

In the intermediate States the commercial crop would total 18.1 million bushels, or nearly 3 million less than in 1938; the 30 late States would turn out 265 million bushels compared with 285 million last year.

## FRUITS: Storm Damage

Mid-winter windstorms sharply reduced the California orange and lemon crops and prices advanced in consequence. Five million boxes were pared from the California navel and Valencia estimates, and more than half a million boxes of lemons. Nevertheless the total supply of winter oranges is larger than a year ago, but the supply of summer oranges will be slightly smaller than in the summer of 1938.

Latest estimates put the total 1939 orange crop the country over at 75.9 million boxes compared with 74.5 million produced last year. Total pro-

duction of lemons was indicated at 10.7 million boxes compared with 9.4 million last year. Prospects for grapefruit were unchanged, at 40.9 million boxes compared with 31.1 million last year.

The large supply of citrus and the low prices resulted in larger exports this winter than in the 2 previous seasons. Total exports for the marketing year may set a new high record. Exports of oranges from November through January totaled 1.5 million boxes compared with 859 thousand in the like period last season. Possibly 15 million boxes of oranges and 1.5 million boxes of grapefruit will be exported during the entire marketing season.

Cold storage holdings of apples totaled 15 million bushels on March 1, compared with 19.5 million on the same date last year, and with 13.9 million the 1928-37 March 1 average. Market prices have averaged much higher this winter than last. Exports from July to January this season totaled 8.6 million bushels, compared with 6.9 million in the corresponding period last season. Large shipments in baskets have been made to countries not formerly listed as important importers. Apple exports to the United Kingdom also increased.

Production of strawberries in the early States was indicated in mid-March to be about 24 percent larger than in 1938. There was a sharp increase in the Louisiana crop.

## DAIRYING: Prices Break

Prices of milk and butter broke sharply during the past month: milk, when New York distributors lowered retail prices about 2 cents a quart; butter, when the Federal Surplus Commodities Corporation announced discontinuance of purchases on the open market. Butter prices usually decline at this time of year.

Milk production continues high, the March 1 total being the largest on record for that date. But in relation to population the production is below

the record levels for this season of the year. Consumption of fluid milk and cream was slightly larger this winter than last.

Production of manufactured dairy products continues around record high levels. Consumption of these commodities has increased (due largely to the distribution of butter for relief), but storage stocks continue large. A large part of the butter stocks is in the hands of Federal and State agencies.

The number of milk cows on farms increased about 1 percent during 1938; more striking was an increase of 5 percent in the number of heifers to be added to milking herds in 1939 and 1940. The number of yearling heifers and heifer calves is considered high in relation to the number of cows, and decidedly larger than is needed for ordinary replacements.

### POULTRY: Hatchery Record

Production of baby chicks by commercial hatcheries during February apparently set a new high record for that month. Nearly 11.4 million chicks were produced by 535 hatcheries reporting to the BAE—30 percent more chicks than in the same month last year. These plants also reported 27.5 million eggs set during February, compared with 23.3 million a year earlier. Reports from a group of hatcheries covering the distribution of 10.6 million chicks hatched in February indicated that 88 percent of this number was sold and delivered immediately.

Farmers eased up on the culling of farm flocks in February, and the average number of layers in these flocks was about 5.3 percent higher this March 1 than last. The March 1, 1939, average was 3 percent below that for March 1 during the 10 years 1928-37, but the number of eggs laid per 100 hens was 10 percent more than the March 1 average in that period. Total indicated production of eggs was about 3 percent more on March 1 this year compared with last.

Cold storage holdings of frozen poultry totaled 116.3 million pounds on March 1, compared with 100.5 million

a year earlier, and with a March 1 average of 110.5 million pounds during the 5 years 1934-38.

### TURKEYS: Increase

Four thousand turkey growers all over the country have reported intentions to increase the production of turkeys this year. These producers bought or hatched 2.8 million poults in 1938. If the indicated increases for 1939 should be realized, turkey producers in the United States would hatch or buy about 27 percent more turkey poults this year than last.

The actual percent of increase in turkeys raised, however, will probably be less than this figure. Last year, producers reported an expected increase of poults of about 6 percent, whereas the increase in turkeys raised seems to have been only about 2 percent. A record gain of 35 percent was made in 1936.

Production of turkeys in 1938 totaled more than 26 million birds, second largest in the current decade. Peak production was nearly 28 million in 1936. Production 10 years ago—in 1929—was less than 17 million turkeys.

### EXPORTS, IMPORTS

United States foreign trade in farm products showed almost the same divergent developments in February as in January. Exports of cotton continued adversely affected by the generally unfavorable foreign demand situation. Apple exports failed to increase over last year as they had increased in January. Exports of pears were less than in February last year. Exports of pork products and wheat were larger than a year ago.

Imports of sugar in January and February were less than half the quantity in the same months of 1938, and less than one-third of the 1924-29 average. Imports of canned beef were smaller this February than last, but larger for the 2 months January and February. Imports of hides, wool, cattle, flaxseed, and tobacco were larger this February than last.

# Livestock Inventory Values Increased

THE value of the livestock is much the most important item of personal property on most farms. Livestock, also being one of the quickest assets on farms, is of primary importance in appraising the financial position of most farmers. But, because of the fluctuating value of livestock per head, the value of a farm's assets may depreciate sharply although the units of livestock may not change or may actually increase.

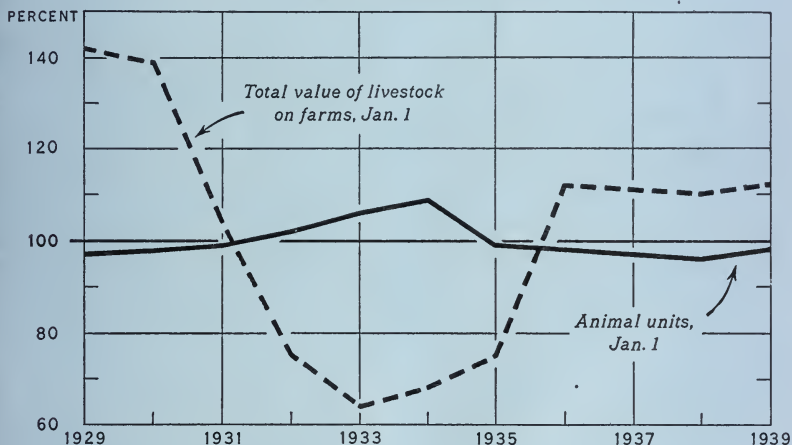
The value of the livestock on farms in the United States on January 1 for the years from 1929 to 1939 has ranged from a high of \$6,164,000,000 in 1929 to a low of \$2,772,000,000 in 1933. On January 1 this year the value was \$4,854,000,000. The greater part of this fluctuation has been caused by the

species. Both animal units and total values have been converted to index numbers using the averages of the 10 years, 1929 to 1938, as a base. The following chart shows the relative fluctuations of numbers and values for the 11-year period. Compared with the changes in values, the index of numbers has been quite stable, ranging from 97 to 109. The index of values ranged from 64 to 142.

SINCE most livestock is raised for sale the changes in the value of animals on farms January 1 tend to reflect closely the changes in the market prices of the different species. The average cost to packers per hundred pounds of all livestock bought gives one of the most useful composite

CHANGES IN INDEX OF NUMBERS AND INDEX OF VALUE OF LIVESTOCK ON FARMS, JAN. 1

1929-38 AVERAGE = 100



changes in the value per head of the different species.

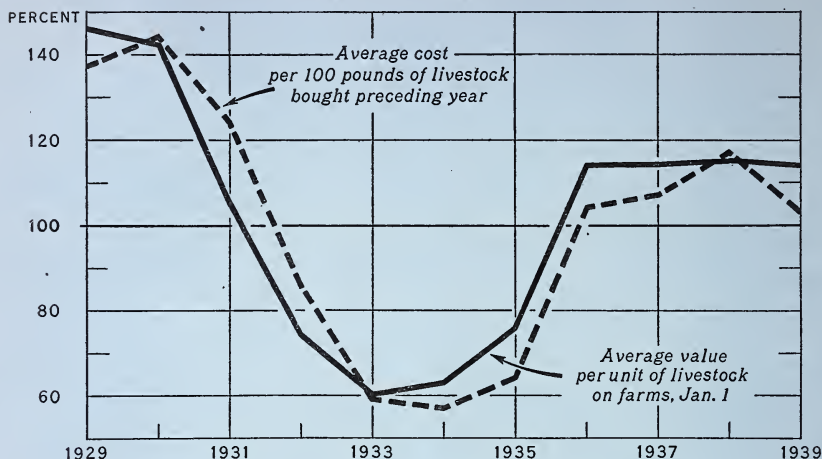
To show graphically the relationship of value changes to quantity changes, the numbers of the different species on January 1 have been converted to an animal unit which allows for the variations in the size of the different

prices of livestock available since it reflects both the quantities sold and the prices of the several species of meat animals, but, of course, does not include horses and mules. The following chart shows the close relationship between the index of the average value per unit of livestock on January 1



# CHANGES IN INDEX OF VALUE PER UNIT ON JAN. 1, AND IN INDEX OF PRICES PER 100 POUNDS THE PRECEDING YEAR

1929-38 AVERAGE=100



(obtained by dividing total value by total animal units) and the index of the average cost to packers per hun-

dred pounds of all livestock bought for the previous year.

C. L. HARLAN.

## Crop Loans Total 769 Millions

THE Government loan program covering 1938-produced crops was practically completed in March. As of February 28 there was outstanding a total of approximately 769 million dollars in loans made to producers and producer-cooperatives by the Commodity Credit Corporation on 15 different commodities during the last 5 years. Under the Agricultural Adjustment Act of 1938 the Commodity Credit Corporation is directed to make loans to farmers on wheat, cotton, corn, and rice, under certain specified conditions and authorizes loans on other agricultural commodities.

**Cotton:** Except for loans on cotton, the greater part of the loans outstanding on February 28 were on crops produced in 1938. In the case of cotton a little less than half of the 11 million bales under loans on February 28 was from the 1937 crop, and 1.7 million bales from the 1934 crop. Loans on the 1935 crop, at the rate

of 10 cents per pound, were all repaid by producers in reclaiming their cotton.

	Cotton loans outstanding	Collateral pledged	Loan rate per unit
		<i>Bales</i>	<i>Pounds</i>
1934-35-----	\$119,338,538.24	1,666,350	12 ¢
1937-38-----	241,193,574.03	5,289,632	9 ¢
1938-39-----	197,441,096.36	4,307,204	8.3¢
Total-----	557,973,208.63	11,263,186	-----

**Corn:** Loans on the 1938-39 corn crop covered a little more than 163 million bushels as of February 28, and it was estimated that a total of about 200 million bushels would be sealed in farm cribs under loan before the program closed on April 1. About 28 million bushels of 1937 corn are also under seal at 57 cents per bushel, at the present time, having been resealed early last fall. A small quantity of corn still held under the 1937-38 loan at 50 cents per bushel represents the loans on which



some adjustments are being made in settlement.

	Corn loans outstanding	Collateral pledged	Loan rate per unit
		<i>Bushels</i>	<i>Bushel</i>
1937-38....	\$556,053.63	1,178,852	50¢
1938.....	15,772,856.49	27,711,182	57¢
1938-39....	93,097,865.68	163,517,766	57¢
Total....	109,426,775.80	192,407,800	-----

**Wheat:** Government loans on wheat were offered for the first time on the 1938 crop, and on February 28 the Commodity Credit Corporation had loans outstanding on about 82 million bushels, of which about three-fourths was warehouse stored and the remainder stored on farms.

	Wheat loans outstanding	Collateral pledged	Loan rate per unit
		<i>Bushels</i>	<i>Bushel</i>
1938.....	\$47,225,255.61	81,843,224	60¢

**Butter:** Government loans on butter have consisted of advances to the Dairy Products Marketing Association which in turn has purchased about 114 million pounds of butter since last summer, at 25¼ to 25½ cents per pound 92-score butter at Chicago with usual price differentials for other grades and markets. As of February 28, little of this butter had been resold to the regular trade, but relief purchases by the Federal Surplus Commodities Corporation had reduced the holdings to around 70 million pounds. About 10 million to 12 million pounds

per month are being distributed in relief channels.

	Butter loans outstanding	Collateral pledged	Loan rate per unit
1938..	\$18,562,317.53	<i>Pounds</i> 70,127,905	<i>Pound</i> 125¼ to 25½¢

<sup>1</sup> 92-score, Chicago basis, plus subsequent advances for storage and operating costs.

**O**THER loans outstanding as of February 28, 1938, were as follows:

	Loans outstanding	Collateral pledged	Loan rate per unit
Wool and mohair:		<i>Pounds</i>	<i>Pound</i>
1938.....	\$9,031,449.40	50,092,053	18¢
Turpentine:		<i>Barrels</i>	<i>Gallon</i>
1934-35....	1,275,400.71	691,492.50	42-48¢
1938.....	2,012,043.34	9,011,185	20¾-26¢
Rosin:		<i>Rd. barrels</i>	} 1 \$5.75
1938.....	9,965,004.03	808,886.00	
		<i>Metal drums</i>	
		122,070.00	
Tobacco:		<i>Pounds</i>	<i>Pound</i>
1931-35....	3,693,035.41	23,763,195	12¢
1937-38....	772,113.55	4,718,276	16.6¢
Total....	4,465,148.96	28,481,471	
Figs:		<i>Tons</i>	<i>Ton</i>
1938-39....	117,517.92	4,489.83	\$16.92
Peanuts:			
1938-39....	4,021,980.64	56,059.11	\$57.82
Prunes:			
1938-39....	326,703.33	23,589.83	\$13.30
Raisins:			
1938.....	10,267.49	22,626.81	\$55.00
1939.....	2,364,702.59	92,010.63	\$23.75
Total....	2,374,970.08	114,637.44	
Pecans:		<i>Pounds</i>	<i>Pound</i>
1938-39....	350,417.44	2,726,387	11¢
Hops:			
1938-39....	1,394,587.62	7,076,841	19.6¢

<sup>1</sup> Per 280 pounds (H grade).

R. M. EVANS,  
*Agricultural Adjustment Administration.*

NOTE.—Loan rates for the various commodities listed in this article are rough averages of all loans made, taking into account different rates on different grades as well as freight differentials.

## FATS, OILS: Big Output

Preliminary estimates indicate that domestic production of fats and oils from domestic and imported materials during 1938 was the largest since 1929. Output totaled more than 8.5 billion pounds, compared with 8 billion pounds in 1937. The increase was due

almost entirely to heavier production of domestic materials, since there was a reduction in imports of most raw materials for oil manufacture. Stocks of fats and oils on December 31, 1938, were the largest on Government record.

# Direct Buying of Livestock

**T**HE growth of direct marketing (buying and selling at points other than public stockyards) has been one of the outstanding developments in livestock marketing in the last 15 years. The extent to which packers have obtained their supplies of livestock for slaughter by direct purchase is shown in the accompanying chart. Although the percentage of hogs bought direct exceeds the percentages of other animals obtained in this way, the direct buying of the other species has expanded at a more rapid rate during the last decade. In 1938 direct purchases in relation to total purchases for slaughter comprised 25 percent of the cattle, 36 percent of the calves, 51 percent of the hogs and 32 percent of the sheep and lambs. Ten years earlier the proportions bought direct were: cattle 12 percent, calves 16 percent, hogs 35 percent, and sheep and lambs 15 percent.

Stocker and feeder cattle and sheep also are marketed direct in relatively large proportions, and the trend in recent years has been definitely upward. Complete records showing the actual number or proportions marketed direct are not available but there is evidence that the proportions exceed those of cattle and sheep sold direct for slaughter. The Bureau of Agricultural Economics is now making a study of the direct marketing of stocker and feeder animals and is developing plans whereby information on the volume of such marketings moving in interstate commerce may be made available currently and used in estimating the number of animals on feed.

**T**HE most significant increases in the direct buying of livestock by packers have been with the concerns located in the northwestern Corn Belt. These packers also have expanded their slaughter operations relatively more than any other regional group of packers. The increase in slaughter in this area, however, has been primarily

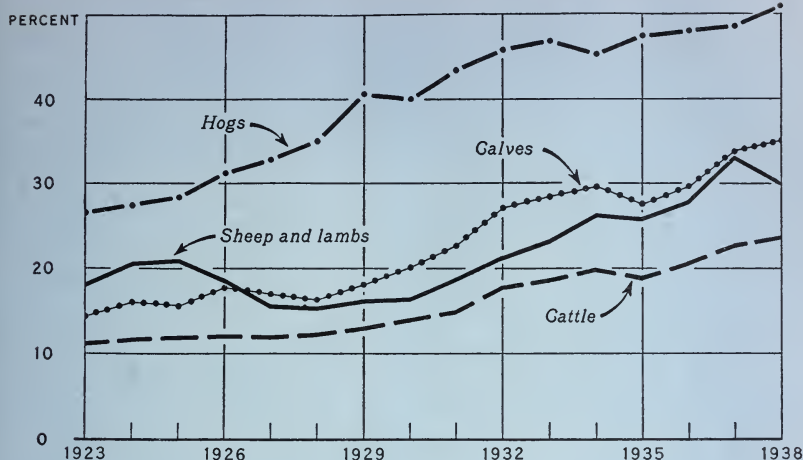
in the plants which are known as the "interior" group. The operators of these plants buy most of their livestock direct. Packers in the eastern Corn Belt, the southwestern Corn Belt, and the South Central region also have increased their direct purchases of livestock.

Packers in the Pacific Coast States buy a relatively larger proportion of their slaughter supplies direct than do packers in any other area but the volume of their slaughter is small in comparison with that of some of the other regional groups. Direct purchases also comprise a relatively large proportion of the total livestock purchased by packers in the South Atlantic and Intermountain areas but the slaughter in these areas is relatively small.

Whether slaughterers buy livestock at public stockyards or direct depends to some extent on the location of their slaughtering establishments. In general, it has been the common practice for plants located at public stockyard markets to obtain their supplies at such markets rather than obtain them by direct purchase at country points. Plants located away from public stockyards, on the other hand, usually obtain most of their supplies direct. In recent years, however, several important slaughtering plants located at public stockyards have obtained considerable livestock by direct purchase.

**D**IRECT buying of livestock for slaughter is not confined to any particular group of packers. The four national packers as a group obtained a smaller proportion of their slaughter supply of cattle, calves, and sheep and lambs through direct purchase during the period 1923-38 than did all other packers as a group. During the period 1923-28 these four concerns obtained a smaller proportion of their hogs through direct purchase than did the other packers but since 1929 their

# LIVESTOCK: PERCENTAGE PURCHASED DIRECT IN THE UNITED STATES, 1923-38



percentage bought direct has exceeded that of the other group. Both groups since 1923 have increased their direct buying operations for all livestock. The four national packers in recent years have acquired several plants located away from public stockyards, most of which are located in the northwestern Corn Belt and in the South.

Direct marketing increased first with hogs. One important factor that contributed to the increase developed out of the competitive situation as between local or interior packers on the one hand and packers located at public markets on the other, this being associated with the expansion of corn and livestock production in the northwestern Corn Belt during the last quarter of a century. Increased hog production in this area made larger supplies of hogs available for local slaughter and much of the increase was taken by the interior packers.

The expansion in the slaughter by the interior packers in the northwestern Corn Belt reduced the supplies going from that area to Chicago. This apparently caused some of the national packers having plants at Chicago to establish concentration yards in the area and to support buying agencies there in order to insure supplies not only for their plants at

Chicago but also for some of those located elsewhere. Buying stations also were established by these packers in some of the States in the eastern Corn Belt.

ASIDE from the increase in the supplies of hogs in their trade areas, interior packers in the northwestern Corn Belt apparently have certain advantages not enjoyed by packers located at public stockyards, and by those located in some other areas. These include lower costs for labor and some other items and certain freight rate differentials which tend to favor them in shipping hog products. The railroad rate structure is such as to make it relatively more advantageous to ship meat than to ship live animals from the western Corn Belt to eastern consuming centers, whereas the relative rates on shipments of hogs and of meat to the same centers from the eastern Corn Belt are the reverse. The rates between two areas, of course, apply equally to packers located at public markets and at interior plants.

Highway improvement and the increased use of motortrucks for transporting livestock have expanded the market outlets available to individual producers and have contributed to



greater flexibility in marketing. Motor-truck transportation moves livestock to slaughtering plants conveniently and quickly, thereby keeping shrinkage at a minimum. Meanwhile the radio and its use in market news dissemination enables producers to keep informed regarding current market conditions and prices at numerous buying points. These developments have facilitated direct dealing between producers and buyers and thus have contributed to the growth in direct marketing. Local livestock dealers also have encouraged direct marketing.

Packers who buy hogs at many local points in the western Corn Belt for shipment to their plants enjoy certain concentration privileges granted by railroads. These permit changes in the make-up and ownership of the shipment of hogs at points between the original loading point and the final destination and allow the through rate from the point of origin to apply. They also permit the consolidation of single-deck loads into double decks, thereby effecting certain economies in transportation costs.

THE development of livestock auctions in recent years also has

tended to reduce marketings at public stockyards. These auction markets have greatly increased in numbers since 1930 and they handle much stock that in earlier years would have been sold at public stockyard markets.

Many producers and dealers have changed from selling their livestock at public stockyards to selling direct in order to reduce marketing expenses. When livestock prices are low, producers evidently give more attention to relative marketing expenses than when prices are high.

The sharp reduction in hog slaughter in recent years which resulted because of the decrease in hog production caused the interior packers in the northwestern Corn Belt to expand their slaughter of cattle, calves, and sheep and lambs. This increase in their operations was reflected in an increase in the direct buying of these species since these packers obtain most of their slaughter supplies by this method.

KNUTE BJORKA.

A more complete analysis of various phases of direct marketing is contained in the report "Direct Buying of Slaughter Livestock by Regions, 1923-37" recently issued by the Bureau of Agricultural Economics.

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## Turkeys—Seventy Million Dollar Industry

NEARLY 70 million dollars' worth of turkeys (at farm prices) were produced in 1938. This figure was somewhat below the 70.6 million dollars estimated for 1937, but was larger than in any other year in the current decade, and probably the second largest in the history of the industry.

Since 1929 the production of turkeys has increased more than 56 percent—from less than 17 million birds in that year to more than 26 million in 1938. Peak of production during the decade was nearly 28 million turkeys in 1936. Highest prices during the 10-year period were in 1929, lowest in 1933. The 1938 average—\$2.66 per bird—was about 16 percent lower than in 1929.

Principal turkey producing States in 1938 were Texas (3,285,000 birds), California (2,625,000), Minnesota (2,145,000), Oklahoma (1,418,000), Iowa (1,386,000), North Dakota (1,265,000), and Oregon (1,265,000). About 40 percent of the 1938 crop was raised in the 12 North Central States as contrasted with only 30 percent in 1929.

Production in Texas—the leading producing State—fluctuated widely during the decade, and the output in 1938 was less than the 3,783,000 birds produced in that State in 1929. In contrast, the 1938 production in California was more than twice the output in 1929. Production was larger in 1938 than in 1929 in all other



principal States except North Dakota where the 1929 output was 1,458,000 birds.

Expansion of the turkey industry during the last 10 years is attributed chiefly to improvements in production and management methods which have lessened the mortality of poults and lowered production costs in closer competition with chickens and other

meats. Production of turkeys in small farm flocks has decreased in most areas, but this has been more than offset by increased numbers of large flocks which are kept separate from other poultry and handled under improved methods of sanitation, feeding, and marketing.

S. A. JONES.

## Buying Power Maintained

**I**NDUSTRIAL production and non-agricultural and national income declined in the first quarter of 1939, but no more than had been anticipated. Industrial production, as measured by the Federal Reserve Board index, declined 6 points in January and February, lowering the index from the December 1938 peak of 104 (1923-25=100) to 98 in February. A further decline will probably be disclosed when March statistics are released.

National income during the first quarter of 1939 was about 90 percent of the 1924-29 average, compared with 90.7 in the last quarter of 1938, but this decline was accompanied by about

an equal reduction in living costs. The result was that per capita buying power held at 99 percent of the 1924-29 average—the same as in the final quarter of 1938. (National income during the first quarter of 1938 was about 88.2 percent of the 1924-29 average.)

There seems little apparent reason to expect an acceleration of the first quarter decline in industrial production and income, but it is possible that the expected renewal of the recovery that occurred in the last half of 1938 may be both delayed and modified somewhat.

P. H. BOLLINGER.

### Measures of Domestic Demand

(1924-29=100)

	February				Percent change		
	1929	1933	1938	1939	1938-39	1933-39	1929-39
National income.....	105.2	59.3	87.9	90.0	+2	+52	-14
Nonagricultural income:							
Total.....	105.8	62.5	90.0	92.2	+2	+48	-13
Per capita.....	101.5	58.0	79.9	81.4	+2	+40	-20
Factory pay rolls:							
Total.....	107.1	40.0	74.3	82.5	+11	+106	-23
Per employed wage earner.....	102.5	61.8	84.0	90.8	+8	+47	-11
Industrial production:							
Total.....	110.5	59.0	74.0	91.7	+24	+55	-17
Factories processing farm products.....	106.0	88.2	88.0	104.9	+19	+19	-1
Other factory production.....	112.4	43.5	62.8	84.7	+35	+95	-25
Construction activity:							
Contracts awarded, total.....	97.5	15.7	42.1	58.7	+39	+274	-40
Contracts awarded, residential.....	84.2	7.2	28.7	49.3	+72	+585	-41
Employment in production of building materials.....	95.7	34.5	57.8	61.5	+6	+78	-36
Cost of living:							
Food.....	98.5	57.9	75.5	74.0	-2	+28	-25
"All other items".....	98.5	81.7	86.1	85.7	(1)	+5	-13
Purchasing power of nonagricultural income per capita:							
For food.....	103.0	100.2	105.8	110.0	+4	+10	+7
For "All other items".....	103.0	71.0	92.8	95.0	+2	+34	-8

<sup>1</sup> Less than one-half of 1 percent.

NOTE.—All indexes adjusted for seasonal variation except "Cost of living."

# Income From Sheep, Lambs, and Wool<sup>1</sup>

**I**N the period since 1909 there have been three broad swings in the cash income from sheep and lambs. During the war years from 1915 through 1919 income about doubled. This was followed by a marked decline in 1920 and 1921. From 1922 through 1929 the income from sheep and lambs again doubled, but all of this increase and more was lost during the depression years of 1930-32.

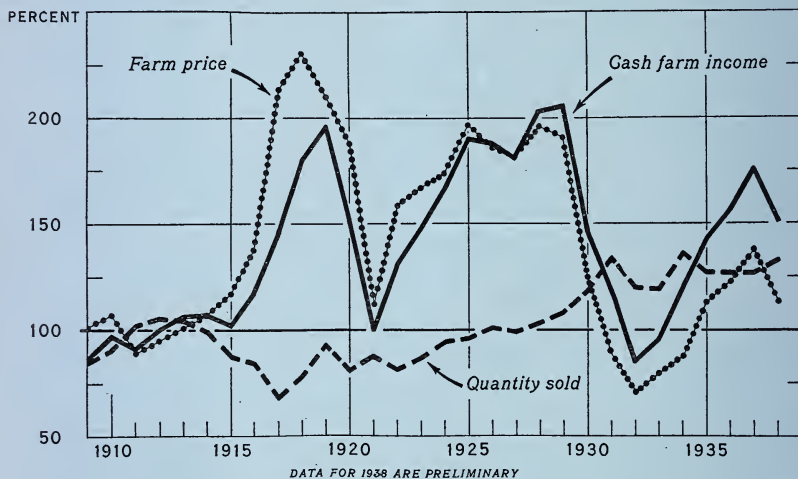
Cash income from sheep, lambs, and

recovery in business conditions after 1932, resulted in a rather marked advance in prices of sheep and lambs. In 1938 sheep and lamb prices declined somewhat as a result of weakness in consumer demand and a moderate increase in marketings. Cash income from sheep and lambs in 1938, totaling 165 million dollars, was about 14 percent smaller than in 1937.

Cash income from wool in 1937, totaling 117 million dollars, was the

## SHEEP AND LAMBS: SALES, PRICE, AND INCOME, UNITED STATES, 1909-38

INDEX NUMBERS (1910-14=100)



wool, like that from other farm products, increased materially from 1933 through 1937, but declined somewhat in 1938. In 1937 the estimated cash farm income from sheep and lambs, amounting to 191 million dollars, was more than twice the record low level of 1932, but was somewhat less than the record high level of 1929.

The improvement in consumer demand for meats and the rise in the price of wool, which accompanied the

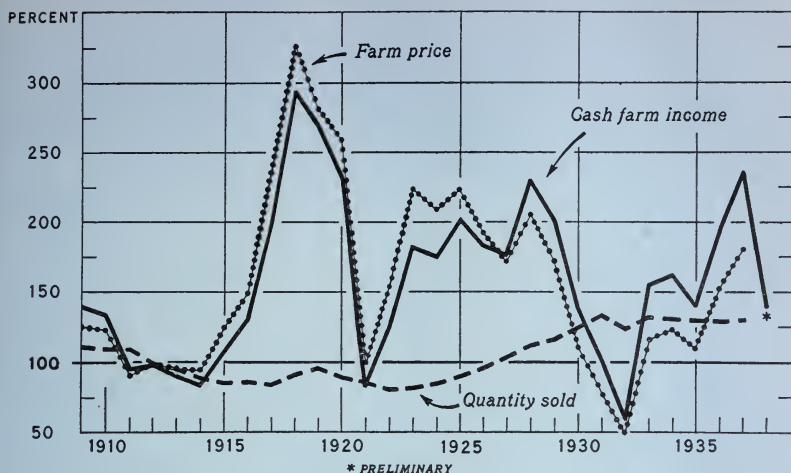
largest for any year since 1919. It was almost four times the record low income of 1932. In 1938 wool prices were much lower than in 1937, and the cash income from wool of about 70 million dollars was 40 percent smaller than in 1937. The average annual cash income from wool in the 1910-14 period was about 50 million dollars. Farm income from wool reached the highest level for at least the past 30 years in 1918, when the total was 146 million dollars.

<sup>1</sup> This is the sixth of a series of income estimates for the period 1909 to date. These estimates were prepared by A. C. Brittain and C. L. Harlan under the direction of the Farm Income Committee, Bureau of Agricultural Economics.

**A**S indicated in the accompanying chart the swings in income from sheep and lambs have followed some-

# WOOL: SALES, PRICE, AND INCOME, UNITED STATES, 1909-38

INDEX NUMBERS (1910-14=100)



what similar swings in prices of sheep and lambs. The close relation of prices and income indicates that changes in income have been caused much more by changes in prices than by changes in the quantities sold. Although changes in the volume of sales are an important factor affecting prices of sheep and lambs, the variations in volume have been much less, relatively, than the changes in prices. It appears, therefore, that changes in consumer demand and changes in the general price level have been much more important than the fluctuations in the quantity sold in causing changes in prices and in incomes received by farmers for sheep and lambs.

In each year since 1927 the volume of sheep and lambs sold has exceeded the pre-war average and since 1930 it has been materially larger. Cash income from sheep and lambs has been greater than the 1910-14 average in all the post-war years, except 1932 and 1933. In 1937 income was 76 percent greater than the average of the years 1910-14 and in 1938 it was 51 percent greater.

**T**HE cash income from wool has experienced broad swings similar to those for sheep and lambs in the

period since 1909 (see chart. Most of the changes in the income from

## Farm Income From Sheep, Lambs, and Wool, 1909-38

Year	Sheep and lambs		Wool-cash income	Sheep, lambs, and wool cash income
	Cash income	Gross income		
	1,000 dollars	1,000 dollars	1,000 dollars	1,000 dollars
1909.....	94,167	95,769	68,811	162,978
1910.....	105,314	106,963	66,404	171,718
1911.....	99,325	100,627	47,759	147,084
1912.....	109,232	110,542	47,950	157,182
1913.....	115,310	116,658	44,418	159,728
1914.....	116,180	117,631	41,559	157,739
1915.....	110,756	112,355	53,223	163,979
1916.....	127,478	129,380	63,780	191,258
1917.....	159,327	162,408	98,453	257,780
1918.....	196,499	199,811	146,532	343,031
1919.....	213,533	216,920	133,571	347,104
1920.....	166,252	169,325	114,117	280,369
1921.....	108,594	110,397	41,882	150,476
1922.....	143,154	145,933	61,998	205,152
1923.....	159,859	162,783	90,607	250,466
1924.....	180,658	183,539	87,284	267,942
1925.....	206,888	209,877	99,990	306,878
1926.....	205,165	208,029	91,514	296,679
1927.....	197,233	199,983	87,610	284,843
1928.....	221,095	224,075	113,879	334,974
1929.....	224,457	227,214	99,056	323,513
1930.....	161,211	163,131	68,739	229,950
1931.....	130,020	131,823	51,039	181,059
1932.....	92,886	94,451	30,202	123,088
1933.....	104,468	106,270	77,065	181,533
1934.....	131,297	133,456	80,988	212,285
1935.....	156,167	158,780	70,180	226,347
1936.....	170,394	173,295	96,824	267,218
1937.....	191,496	194,610	117,321	308,817
1938 <sup>1</sup> .....	165,000	167,750	70,000	235,000

<sup>1</sup> Preliminary.



wool have been caused by changes in wool prices. As the United States usually imports substantial quantities of wool, prices in this country are affected largely by changes in world supplies and demand. Changes in domestic supplies of wool are a factor affecting wool prices only as such changes are reflected in total world supplies.

In all years of the 1909-38 period the cash income from sheep and lambs has been considerably greater than the cash income from wool. In 1938 the cash income from sheep and lambs was about 70 percent of the total cash income from sheep, lambs, and wool, and in the 5 years, 1933-37, it averaged 63 percent of the total.

Comparisons of the estimated cash farm income from sheep and lambs

with that from wool, however, understate the importance of wool to the United States sheep industry. The estimates of income from wool include only the receipts from the sale of shorn wool, whereas a considerable quantity of wool is sold on the sheep's back and is reflected in the prices paid for live lambs and sheep. Hence, a part of the income from the sale of sheep and lambs could be credited to the wool which is pulled from pelts after sheep and lambs are slaughtered. In the period 1933-37 the average annual production of shorn wool was about 367 million pounds and the average yearly production of pulled wool was about 65 million pounds.

O. C. STINE,  
*Chairman, Income Committee.*

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## Cotton's Synthetic Rivals

COTTON farmers and the cotton trade are studying with apprehension the comparatively high rate of growth in synthetic fiber production and use. The publicity accompanying developments in the synthetic fiber field and the novelty of producing wearing apparel from such materials as wood, coal, and skim milk have created much interest and some confusion about the nature and importance of synthetic textiles. For this and other reasons, it seems timely to state briefly the synthetic fiber situation, giving particular attention to its relationship to the use of cotton.

Rayon is the leading synthetic fiber used in textile production. World production of rayon is equivalent roughly to one-sixth of the world output of raw cotton. Rayon is used principally for clothing, especially dress fabrics, but it is used to some extent also in household articles such as bedspreads and curtains, and to a limited degree in industrial materials.

Rayon is made from cellulose obtained commercially, principally and almost exclusively from wood pulp and cotton linters. No raw cotton is

used as a source of industrial cellulose, not because cotton is not physically suited to the purpose but because it is too costly relative to wood pulp and cotton linters. Experiments of various kinds are under way here and abroad to use other plant materials as a source of cellulose but the commercial use of these materials is limited.

Rayon used in most textiles is either continuous filament yarn or staple fiber. Filament yarn is manufactured into a continuous thread at the rayon factory and is sold for use in weaving or knitting by textile manufacturers. Staple fiber rayon is produced from the same raw materials and by practically the same process as filament yarns, except that the filaments are not continuous but cut to definite lengths for spinning on cotton, wool, or silk-spinning systems. Staple fiber rayon may be spun alone or in mixtures with other fibers.

WORLD rayon production increased during the post-war period from a total of only 33 million pounds (equivalent roughly to 80,000 bales of cotton) in 1920 to 1,900 mil-



lions (equivalent to something like 4,500,000 bales in 1938). It is difficult to determine accurately the effect of the development and use of rayon upon the use of other textile fibers. It is fairly obvious, however, that fibers used for clothing have been affected most since it is in this group of materials that rayon has been most extensively used.

The principal clothing fibers other than rayon are cotton, wool, and silk. These are also the fibers used most commonly for household purposes. Cotton is used in much larger quantities than all other fibers combined for clothing and household purposes and it seems probable that rayon has been substituted for cotton more extensively than for any other fiber and possibly rayon has displaced more cotton than it has all other fibers combined.

Despite the inroads of rayon into such important uses for cotton as dress fabrics, underwear, and hosiery, world cotton consumption increased during the post-war period from 17,150,000 bales in 1920-21 to nearly 28,000,000 in 1938. Thus, world cotton consumption has increased at an average rate of a little more than half a million bales annually during the last 2 decades. This upward trend, may be explained in large part by an increased world population and the expansion in the use of cotton for industrial purposes.

FROM 1929 to 1938, world rayon production averaged nearly 960 million pounds annually (2,300,000 bales). If it should be assumed conservatively that less than half of this quantity displaced cotton directly or indirectly, it might be argued that cotton consumption averaged about 1,000,000 bales less annually or a total of 10,000,000 bales during the past decade than if rayon had not been developed. This quantity of cotton is equivalent to almost half of the world carry-over of cotton at the beginning of the 1938 season. These comparisons, however, are useful only for illustrative

purposes and should not be taken in any sense as an accurate appraisal of the effect of rayon competition upon cotton consumption.

IN Germany, where rayon has been substituted for cotton, under compulsion of governmental decrees, total cotton consumption in 1937-38 was about 1,100,000 bales against a 5-year average of slightly more than 1,300,000 bales (1929-33). German rayon production in 1937 was 345 million pounds (equivalent to 800,000 bales of cotton) against a 5-year average of only 65 million (150,000 bales). The important question of the extent to which increased rayon production has depressed cotton consumption must be, of necessity, largely a matter of opinion, but it seems fairly obvious that considerably more cotton would have been consumed during the past few years had there been no significant increase in the use of rayon. This is certainly so, if it is assumed that total textile consumption would have been maintained.

Germany is not the only country in which the use and mixture of rayon with cotton has been enforced by law or governmental decree during recent years. In Japan and Italy, and possibly in a few other countries, a similar situation exists. In these countries, rayon consumption has increased more than in countries where such measures have not been enforced and where a shortage of foreign exchange and efforts toward national self-sufficiency have been less pronounced.

Great strides have been made in improving rayon quality and in reducing production costs. For example, in the United States the price of a typical quality of rayon yarn was quoted at \$2.00 per pound in 1925 against about 50 cents in 1938. Viscose staple fiber rayon is currently quoted at 25 cents per pound, against less than 10 cents for Middling  $1\frac{1}{8}$ -inch cotton at Carolina mill points, but cotton contains a larger proportion of waste than staple fiber.

**I**N a recent study of the development of synthetic fibers, by the United States Department of Agriculture, it was concluded that "some further expansion in the use of rayon during the next few years is to be expected, but no such tremendous relative gains as those \* \* \* in the past are likely. Rayon is approaching industrial maturity; that is, considering its present properties, and its price relative to prices of competing fibers, it is approaching a limit of expansion into those fields for which it is suitable."

Rayon is the only synthetic fiber of much commercial significance as compared with cotton, wool, silk, and other important commercial fibers. There are, however, at least three other synthetic textile materials that seem worth mentioning: lanital, glass fiber, and "Nylon."

Lanital is generally considered a wool substitute and is made chiefly from casein obtained from skim milk. Commercial production was first begun in Italy in 1936. Reports regarding the use of this material are somewhat

conflicting but some advices from Italy indicate that it has not been entirely satisfactory as a textile material.

Glass fiber is another development which so far as textiles are concerned is not commercially important but is claimed to have potentialities for use in curtains, draperies, and insulating materials.

"Nylon" is the trade name of a new textile material developed by a large rayon and chemical manufacturer in the United States. It is said to be made chiefly from materials derived from coal, water, and air. "Nylon" is claimed to be especially adapted as a substitute for silk in ladies' hose but it is said also to be adapted for thread and other products. A large plant is now in construction to manufacture the product.

With the exception of rayon, however, synthetic textile materials have not displaced a significant quantity of cotton, whatever their potentialities may be.

CARL H. ROBINSON.

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## Regional Changes in the Sheep Industry

**T**HE number of stock sheep on farms and ranches on January 1 totaled 48 million head. Of this number approximately 34 million were in the Western States, and 14 million in the native sheep States.<sup>1</sup> The number of western

<sup>1</sup> "Western" sheep are in States where production is chiefly in large flocks that are either herded on unfenced ranges or run in large pastures. The western sheep area includes the 11 Western States, Texas and South Dakota. Lambs from western flocks are called western lambs and the wool from western sheep is called "territory" wool. A part of the western lambs when sold from producing flocks go to immediate slaughter, but large numbers are bought as feeder lambs to be finished in feed lots in the Corn Belt and in the Western States.

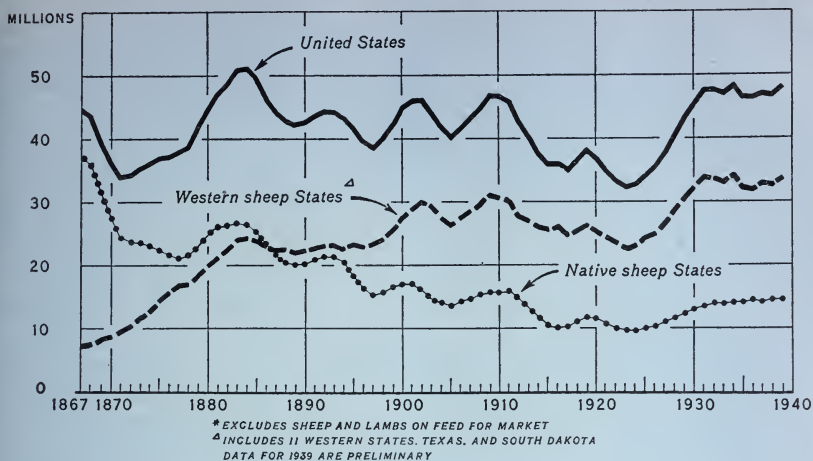
"Native" sheep are in States where production is almost exclusively in small flocks on farms. The native sheep area includes all States east of the Rocky Mountain States, except Texas and South Dakota. The lambs raised in the native sheep area are called native lambs and the wool from native sheep is generally spoken of as "fleece" wool. Nearly all native lambs sold from the farms where produced go for immediate slaughter.

sheep is close to the high record established in 1934, and of native sheep the largest in 27 years. Two sections of the country set new high records in 1939—the West North Central States (excluding South Dakota) in the native sheep group, and Texas in the Western sheep industry.

The divergent trends of the sheep industry, as between native and western sheep, during the last 72 years are depicted by the accompanying chart. In the early days, the bulk of the industry was in the native States; now the western sheep are about 70 percent of the total number of stock sheep on farms and ranches.

The long-time trend in numbers of native sheep was generally downward until about 1924. From 1924 to 1932 there was a rather sharp increase in

# STOCK SHEEP AND LAMBS: NUMBER ON FARMS JANUARY 1, 1867-1939 \*



numbers of these sheep, since then the numbers have varied little below or above the 1932 figures. In contrast, the trend of western sheep numbers was generally upward until 1909, downward to 1922, sharply upward through 1931, and has been little changed since that year.

**STRIKING** changes have occurred also within both sections of the industry, as revealed by the accompanying tables showing the native sheep States by grand divisions and the western sheep States by States or groups of States which have been combined on the basis of similarity in methods of production or in character of lambs produced. For each group (or State) is shown the year of largest numbers and numbers in that year, and the numbers in certain other selected years—in 1884 which marked the peak numbers for the entire country, in 1923 when the numbers of sheep were the smallest on record, in 1934 which was the peak year prior to the recent droughts, and in the last 2 years.

**THE** total number of sheep in the native States is much larger now than at the low point in 1923, but is only 38 percent of the 1867 total for these States. The figures show also

that whereas native sheep were about 83 percent of all sheep in the United States in 1867, the proportion now is only about 30 percent—the same as in 1923.

The number of sheep in the native States was highest in 1867, the first year covered by these estimates. Available information indicates that sheep numbers in these States probably reached their high point at or shortly after the close of the Civil War, production having been greatly expanded during the years of the war in response to the high price of wool. It is probable that numbers in 1867 were near this peak. For all divisions of these States except the West North Central, 1867 was also the peak year.

The largest relative decrease from the peak year of 1867 has been in the North Atlantic States where present numbers are less than one-tenth the total in that year and where numbers have decreased almost without interruption. This is also the only area where present numbers are below the figures in 1923 when the total number of sheep in the United States was the smallest in the 72-year record.

**THE** region showing the second largest relative decrease and much the largest absolute decrease from 1867 is the East North Central. At the low point in 1923 numbers in this area



were only one-fifth of those in 1867 and at present are only a little more than one-fourth. In 1867 more than 40 percent of all sheep in the United States were in this group of five States, now only about 10 percent.

In the two Southern regions—the South Atlantic and the South Central (excluding Texas)—sheep numbers declined steadily from 1867 until 1923. Since 1923 numbers in the South Atlantic States have about held steady but in the South Central there has been a substantial increase. The greater part of the decline to 1923 was in the cotton producing States east of the Mississippi River; numbers in the States north of the Cotton Belt showed a much smaller decline.

In the West North Central region, excluding South Dakota which is included with the western sheep States, the peak of numbers of sheep was reached on January 1 this year. The number this year was nearly 50 percent larger than in 1867, but there is a marked variation among the different States in the relationship of present numbers to those of 70 years ago. In both Iowa and Missouri the present numbers are smaller, but in all other States (which had few sheep at the

end of the Civil War) in this region the numbers were materially higher. The sheep population in this area has more than doubled since 1923, and further increases are quite probable.

**T**HE trend in the western sheep States has varied markedly among States and regions. To show a part of this variation, the numbers are given for Texas and California separately, for Idaho, Washington, and Oregon combined, and for all other States combined. In 1867 nearly all of the sheep in the western group were in Texas, New Mexico, and California. The movement into the other Western States after that time was largely from the South and West, rather than from the East.

In Texas, sheep husbandry continued on a wool production basis much later than in other States and it has only been in recent years that Texas has contributed materially to the supply of slaughter lambs. From about 2 million head at the close of the Civil War sheep numbers increased to about 6.5 million in 1884, declined gradually until the early years of this century, changed little until the end of

#### Stock Sheep on Farms—Native Sheep

[000's omitted]

	North Atlantic	East North Central	West North Central, excluding South Dakota	South Atlantic	South Central, excluding Texas	Total Native
Peak years.....	{ (1867) 9,627	(1867) 18,451	(1939) 5,119	(1867) 2,885	(1867) 3,149	(1867) 37,591
1884.....	5,227	12,186	3,775	2,698	2,689	26,575
1923.....	1,047	3,637	2,385	1,143	1,570	9,787
1934.....	1,014	5,030	4,760	1,347	2,033	14,184
1938.....	903	5,000	4,937	1,172	2,186	14,198
1939.....	870	5,008	5,119	1,150	2,274	14,421

#### Stock Sheep on Farms—Western Sheep

[000's omitted]

	Texas	California	Idaho, Washington, Oregon	Other western	Total Western	Grand total—native and western
Peak years.....	{ (1939) 9,646	(1876) 7,700	(1903) 5,895	(1909) 21,302	(1934) 34,270	(1884) 51,101
1884.....	6,600	5,150	2,597	10,179	24,526	51,101
1923.....	3,490	2,140	4,338	12,442	22,810	32,597
1934.....	8,059	2,806	5,404	18,001	34,270	48,454
1938.....	9,100	3,434	4,656	15,297	32,487	46,685
1939.....	9,646	3,537	4,604	15,854	33,641	48,062



the World War, and since then have increased rapidly to more than 9.5 million head, having trebled in the last 20 years. For the last 3 years the net production of sheep and lambs in Texas has greatly exceeded that of any other State.

Sheep raising was an important industry in California long before that State became a part of the United States. From somewhat more than 3 million head in 1867, numbers increased to a peak of 7.7 million head in 1876, declined gradually and steadily to less than 2 million in 1915 and have come back since then to about the number in 1890. The industry has changed greatly during the last 20 years, the production of lambs for the early spring market now being the dominating characteristic.

THE three Northwestern States—Idaho, Washington, and Oregon—are combined because the trend of numbers has been fairly similar in each of these States and the raising of early spring lambs is an important common characteristic. From only a few hundred thousand head in 1867, numbers increased steadily and fairly rapidly to a peak of nearly 6 million head in 1902. During the present century numbers have shown cyclical fluctuations at a level between 4.5 million and 5.5 million head but with little indication of trend.

The numbers in the remainder of the western sheep States are combined. With local exceptions, late lambing

and the production of a large proportion of feeder lambs and a maximum dependence on range feed characterize the industry in these States. There have been, however, rather sharp differences in the trend of numbers among these States during the last 70 years, although during the last 20 years they have all tended to follow much the same cyclical movements. The total in these States increased rapidly until about 1900 as the range sheep industry expanded over the West, reached a peak in 1909, declined sharply until about 1923, then increased until 1934, and since then has lost about half of the increase from 1923 to 1934. The 1934 and 1936 droughts forced larger reductions in these States than in any of the other western sheep States.

SHEEP numbers for the United States are now somewhat below the peak numbers of 1884, but the output from the present number—animals for slaughter and wool—is much larger than in 1884. The industry, generally, is on a lamb producing basis. The January 1 estimates consist largely of breeding ewes. There are few aged wethers or wether lambs, except those on feed for market. The numbers on feed are not included in the estimates of stock sheep. If the estimated numbers on feed for market January 1, 1884 and January 1, 1939 were added to the respective stock sheep numbers of the same years, the total for 1939 would be larger than in 1884.

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MARKED changes have been made in the poultry and egg industry in recent years. Twenty years ago the production of chickens and eggs was commonly regarded as a "pin money" enterprise for the farmer's wife; today it is a commercialized—in many ways, a mechanized—industry that adds more than a billion dollars annually to the farm income.

Nearly 6,000,000 farms in the United States have poultry flocks.

But an increasing proportion of the total production of chickens and eggs has been on commercial poultry farms. These farms are concentrated chiefly in the Pacific Coast, Ohio Valley, and North Atlantic States. On the more advanced types of commercial poultry farms, each hen is required to produce a high efficiency quota of eggs in relation to the feed she consumes. The relative cost of feed, eggs, and chickens is carefully studied.

# General Trend of Prices and Wages

[1910-14=100]

Year and month	Whole-sale prices of all commodities <sup>1</sup>	Industrial wages <sup>2</sup>	Prices paid by farmers for commodities used in <sup>3</sup>			Farm wages	Taxes <sup>4</sup>
			Living	Production	Living and production		
1920.....	225	222	222	174	201	242	209
1921.....	142	203	161	141	152	155	223
1922.....	141	197	156	139	149	151	224
1923.....	147	214	160	141	152	169	228
1924.....	143	218	159	143	152	173	228
1925.....	151	223	164	147	157	176	232
1926.....	146	229	162	146	155	179	232
1927.....	139	231	159	145	153	179	238
1928.....	141	232	160	148	155	179	239
1929.....	139	236	158	147	153	180	241
1930.....	126	227	148	140	145	167	238
1931.....	107	208	126	122	124	130	217
1932.....	95	179	108	107	107	96	188
1933.....	96	172	109	108	109	85	161
1934.....	109	183	122	125	123	95	153
1935.....	117	192	124	126	125	103	155
1936.....	118	200	122	126	124	111	156
1937.....	126	215	128	135	130	126	161
1938.....	115	207	122	124	122	124	-----
1938—February.....	116	207	-----	-----	126	-----	-----
March.....	116	208	123	128	125	-----	-----
April.....	115	204	-----	-----	125	121	-----
May.....	114	201	-----	-----	125	-----	-----
June.....	114	202	122	126	124	-----	-----
July.....	115	205	-----	-----	123	129	-----
August.....	114	209	-----	-----	122	-----	-----
September.....	114	214	121	122	121	-----	-----
October.....	113	212	-----	-----	121	126	-----
November.....	113	207	-----	-----	121	-----	-----
December.....	112	212	120	122	120	-----	-----
1939—January.....	112	211	-----	-----	<sup>5</sup> 120	117	-----
February.....	112	213	-----	-----	<sup>5</sup> 120	-----	-----

Year and month	Index of prices received by farmers [August 1909–July 1914=100]								Ratio of prices received to prices paid
	Grains	Cotton and cottonseed	Fruits	Truck crops	Meat animals	Dairy products	Chickens and eggs	All groups	
1920.....	232	248	191	-----	174	198	223	211	105
1921.....	112	101	157	-----	109	156	162	125	82
1922.....	106	156	174	-----	114	143	141	132	89
1923.....	113	216	137	-----	107	159	146	142	93
1924.....	129	212	125	150	110	149	149	143	94
1925.....	157	177	172	153	140	153	163	156	99
1926.....	121	122	138	143	147	152	159	145	94
1927.....	128	128	144	121	140	155	144	139	91
1928.....	130	152	176	159	151	158	153	149	96
1929.....	120	144	141	149	156	157	162	146	95
1930.....	100	102	162	140	133	137	129	126	87
1931.....	63	63	98	117	92	108	100	87	70
1932.....	44	47	82	102	63	83	82	65	61
1933.....	62	64	74	105	60	82	75	70	64
1934.....	93	99	100	103	68	95	89	90	73
1935.....	103	101	91	125	118	108	117	108	86
1936.....	108	100	100	111	121	119	115	114	92
1937.....	126	95	122	123	132	124	111	121	93
1938.....	74	70	73	101	114	109	108	95	78
1938—February.....	89	68	68	111	110	121	94	97	77
March.....	85	70	69	101	117	117	93	96	77
April.....	82	71	69	98	114	110	93	94	75
May.....	79	71	77	88	111	103	98	92	74
June.....	77	68	73	92	116	98	99	92	74
July.....	72	71	79	99	123	101	103	95	77
August.....	62	69	78	92	115	102	105	92	75
September.....	63	69	75	107	117	104	118	95	79
October.....	60	72	70	107	111	107	124	95	79
November.....	60	73	71	102	111	109	131	94	78
December.....	63	70	73	108	109	112	127	96	80
1939—January.....	66	71	76	96	112	109	97	94	<sup>5</sup> 78
February.....	66	70	78	108	116	107	91	92	<sup>5</sup> 77
March.....	66	71	81	114	116	100	88	71	<sup>5</sup> 76

<sup>1</sup> Bureau of Labor Statistics Index with 1926=100, divided by its 1910-14 average of 68.5.

<sup>2</sup> Average weekly earnings, New York State factories. June 1914=100.

<sup>3</sup> These indexes are based on retail prices paid by farmers for commodities used in living and production reported quarterly for March, June, September, and December. The indexes for other months are interpolations between the successive quarterly indexes.

<sup>4</sup> Index of farm real estate taxes, per acre, 1913=100.

<sup>5</sup> Preliminary.